CLAIMS

What is claimed is:

1. A method of providing a prognosis of disease-free survival in a cancer patient comprising:

    obtaining a sample from said patient;

    measuring MTA1 polypeptide level in said sample; and

    predicting said disease-free survival based upon the measured level of said MTA1 polypeptide, wherein when said level of MTA1 polypeptide is increased as compared to a control sample, said disease-free survival is decreased.

2. The method of claim 1, wherein the patient has epithelial-derived cancer.

3. The method of claim 2, wherein the patient has a cancer selected from the group of breast cancer, esophagus cancer, colon cancer, gastric cancer, skin cancer, liver cancer, pancreatic cancer, bladder cancer, ovarian cancer, cervical cancer, testicular cancer, brain cancer and lung cancer.

4. The method of claim 3, wherein the cancer is breast cancer.

5. The method of claim 1, wherein the sample comprises a fluid, a tissue or a cell.

6. The method of claim 1, wherein the MTA1 polypeptide is SEQ ID NO:1 or a structural variant thereof.

7. The method of claim 1, wherein the level is measured using an anti-MTA1 antibody that binds to a specific MTA1 peptide sequence

8. The method of claim 7, wherein the anti-MTA1 antibody selectively cross-reacts with SEQ ID NO:1 or a structural variant thereof.

9. The method of claim 8, wherein the anti-MTA1 antibody binds to SEQ ID NO:6.

72

10. A method of prognosticating metastasis in a cancer patient comprising:

obtaining a sample from said patient;

measuring MTA1 polypeptide level in the said sample;

determining a prognosis based upon the measured level of said MTA1
polypeptide, wherein an increased level of MTA1 polypeptide as
compared to a control sample indicates a poor prognosis.

11. A method of prognosticating micrometastasis in a cancer patient comprising:

obtaining a sample of said patient;

measuring MTA1 polypeptide level in said sample;

determining a prognosis based upon the measured level of said MTA1
polypeptide, wherein an increased level of MTA1 polypeptide as
compared to a normal level indicates a poor prognosis.

12. A composition of matter comprising an anti-MTA1 antibody that selectively
cross-reacts with a MTA1 polypeptide.

13. The composition of claim 12, wherein the MTA1 polypeptide is SEQ ID NO:1 or
a structural variant thereof.

14. The composition of claim 12, wherein the anti-MTA1 antibody binds to a specific
MTA1 peptide sequence.

15. The composition of claim 14, wherein the specific MTA1 peptide sequence is
SEQ ID NO:6.

16. The composition of claim 12, wherein the anti-MTA1 antibody is a polyclonal
antibody or a monoclonal antibody.

17. A kit comprising an anti-MTA1 antibody in a container, wherein said antibody
selectively cross-reacts with an MTA1 polypeptide.

18.   The kit of claim 17, wherein the MTA1 polypeptide is SEQ ID NO:1 or a
structural variant thereof.

19. The kit of claim 17, wherein the anti-MTA1 antibody binds to a specific MTA1 peptide sequence.

20. The kit of claim 17, wherein the anti-MTA1 antibody binds to SEQ ID NO:6.

21. A method of treating a cancer patient comprising administering to said patient a therapeutically effective amount of a therapeutic agent that decreases MTA1 polypeptide level.

22. The method of claim 21, wherein the MTA1 polypeptide comprises SEQ ID NO:1 or a structural variant thereof.

23. The method of claim 21, wherein the therapeutic agent interferes with translation of the MTA1 polypeptide.

24. The method of claim 21, wherein the therapeutic agent comprises an oligonucleotide complementary to a polynucleotide sequence encoding a specific MTA1 peptide sequence.

25. The method of claim 21, wherein the therapeutic agent neutralizes biological activity of the MTA1 polypeptide.

26. The method of claim 21, wherein the therapeutic agent comprises a specific MTA1 peptide sequence.

27. A method of screening for a candidate therapeutic agent that improves disease-free survival in a cancer patient comprising:

introducing to a cell a test agent, wherein said cell has a polynucleotide encoding a MTA1 polypeptide or a structural variant thereof which is under control of a promoter that is operable in said cell; and

measuring a level of the MTA1 polypeptide or the structural variant thereof after introduction of the test agent, wherein when said measured level is decreased following the introduction, the test agent is the candidate therapeutic agent.

28. The method of claim 27, wherein the cell is a cancer cell.

29.   The method of claim 27, wherein the therapeutic agent is an antagonist of MTA1.

30.   The method of claim 27, wherein the therapeutic agent interferes with translation of the MTA1 polypeptide.

31.   The method of claim 30, wherein the therapeutic agent is an antisense oligonucleotide.

32.   The method of claim 31, wherein said antisense oligonucleotide is complementary to a polynucleotide sequence encoding a specific MTA1 peptide sequence.

33.   The method of claim 27, wherein the therapeutic agent binds to the MTA1 polypeptide or structural variant, wherein said binding neutralizes the biological activity of the MTA1 polypeptide or structural variant thereof.

75